

1999 HOSPITAL COSTS IN RHODE ISLAND
~A State by State Comparison~

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I. Highlights

Hospital services are the largest component of national healthcare expenditures,¹ and their costs impact everyone. Expensive hospital services can inflate insurance premiums, which could cause employers on the margin to drop health benefits or price individuals out of the market altogether. On the other hand, less expensive services could provide a competitive advantage for RI businesses (all else being equal).

Therefore, there is interest and utility in monitoring these costs over time. This Report updates last year's publication, and presents the most current information on each state's hospital costs (readers should note the data are two years old and should interpret accordingly). It utilizes two national databases² to examine 1999 acute care, community hospital costs while controlling for differences in patient mix.

Compared to other states, in 1999:

- *RI had the 16th **highest** per-capita hospital expenses in the Nation (\$1,061 per person), and*
- *the 17th **lowest** expenses per unit-of-service (\$5,169 per adjusted admission).*
- *Reconciling these two statistics in RI, was the 4th **highest** hospital outpatient surgical rate (88 outpatient surgeries per 1,000), and the 11th **highest** ER use rate in the Country (426 ER visits per 1,000).*
- *On the reimbursement side, RI hospitals received the 9th **lowest** patient revenue per unit-of-service (\$4,654 per adjusted admission).*
- *From 1998 to 1999, hospital unit-expenses in RI increased 27th **fastest** in the Nation (+2.9 percent), while*
- *Unit-revenue increased the 3rd **slowest** of all states (-3.6 percent).*

II. Introduction -Hospital Costs

Promoting the competitiveness of hospital care requires it be consistently delivered less expensively with the same or better quality than elsewhere. This Report compares each state's hospital costs, it does not examine the quality³ or the appropriateness⁴ of hospital services.

Three different types of hospital costs are evaluated here. **Per-capita expenses** are the total hospital expenses in a state, reported on a per person basis. **Expenses per adjusted admission** are the costs incurred by hospitals from providing one unit of healthcare service. **Patient revenue per adjusted admission** is the reimbursement hospitals received from all payors (commercial, governmental and private) for one unit of these services.

The adjusted admission⁵ is the preferred measure of comparison for examining unit-costs because it accounts for all of the activity at the hospital, both inpatient and outpatient. **Further, all of these cost measures are reported on a Medicare case-mix adjusted basis.** This allows for a more valid comparison of actual costs by controlling for differences in the complexity (and resource use) of each state's patient mix.⁶

Table I presents each state's 1999 per-capita hospital expenses.⁷ RI had the 16th **highest** per-capita expenses (\$1,061) in the country, 8 percent **higher** than the US rate of \$984. RI also ranked as the 3rd **highest** state in New England, below Massachusetts (\$1,328) and Maine (\$1,071). Evaluating a relatively high per-capita expense necessarily involves an examination of both the unit-costs of services and the appropriateness of the utilization.

Table 1 also presents each State's percent population 65 years and older. RI ranked 6th highest in the nation for this demographic suggesting that this age group and its greater utilization of hospital services may have influenced the high per-capita expense in the state.

TABLE 1: 1999 HOSPITAL EXPENSES PER-CAPITA

	Per-Capita Hospital Expenses	Medicare Case-Mix Index	Case-Mix Adjusted Per-Capita Hospital Expenses	State Ranking (Hi to Low)	% Popu- lation Age 65+ ¹	State Rank- ing
North Dakota	\$1,678	1.0417	\$1,611	1	14.7%	5
Massachusetts	\$1,703	1.2822	\$1,328	2	13.5%	13
New York	\$1,705	1.2917	\$1,320	3	12.9%	24
Nebraska	\$1,294	1.0609	\$1,220	4	13.6%	12
Missouri	\$1,455	1.2131	\$1,199	5	13.5%	14
Iowa	\$1,279	1.0784	\$1,186	6	14.9%	4
South Dakota	\$1,286	1.0842	\$1,186	7	14.3%	8
West Virginia	\$1,422	1.2014	\$1,184	8	15.3%	3
Pennsylvania	\$1,481	1.2651	\$1,171	9	15.6%	2
Mississippi	\$1,157	1.0171	\$1,137	10	12.1%	34
Tennessee	\$1,319	1.1916	\$1,107	11	12.4%	29
Montana	\$1,226	1.1220	\$1,092	12	13.4%	15
Minnesota	\$1,216	1.1319	\$1,074	13	12.1%	32
Maine	\$1,270	1.1848	\$1,071	14	14.4%	7
Kansas	\$1,144	1.0723	\$1,067	15	13.8%	11
Rhode Island	\$1,375	1.2954	\$1,061	16	14.5%	6
Kentucky	\$1,253	1.1857	\$1,057	17	12.5%	27
Arkansas	\$1,165	1.1047	\$1,055	18	14.0%	9
Illinois	\$1,323	1.2551	\$1,054	19	12.1%	33
Michigan	\$1,308	1.2543	\$1,042	20	12.3%	30
Ohio	\$1,322	1.2736	\$1,038	21	13.3%	16
Indiana	\$1,260	1.2234	\$1,030	22	12.4%	28
Louisiana	\$1,270	1.2486	\$1,017	23	11.6%	39
South Carolina	\$1,213	1.1946	\$1,016	24	12.1%	31
Alabama	\$1,195	1.1840	\$1,009	25	13.0%	21
Wisconsin	\$1,187	1.1826	\$1,004	26	13.1%	20
North Carolina	\$1,174	1.1921	\$985	27	12.0%	35
Delaware	\$1,314	1.3497	\$973	28	13.0%	23
Connecticut	\$1,322	1.3717	\$964	29	13.8%	10
New Jersey	\$1,238	1.3223	\$936	30	13.2%	18
New Mexico	\$1,062	1.1772	\$902	31	11.7%	38
Vermont	\$1,089	1.2090	\$901	32	12.7%	26
Georgia	\$1,056	1.1758	\$898	33	9.6%	48
Alaska	\$954	1.0779	\$885	34	5.7%	50
Texas	\$1,091	1.2346	\$883	35	9.9%	29
Oklahoma	\$1,023	1.1749	\$870	36	13.2%	19
New Hampshire	\$1,073	1.2847	\$835	37	12.0%	36
Florida	\$1,160	1.3955	\$831	38	17.6%	1
Maryland	\$1,055	1.2860	\$820	39	11.3%	40
Oregon	\$991	1.2490	\$793	40	12.8%	25
Wyoming	\$929	1.1711	\$793	41	11.7%	37
Colorado	\$1,033	1.3094	\$789	42	9.7%	47
Hawaii	\$1,074	1.3699	\$784	43	13.3%	17
California	\$1,055	1.3476	\$783	44	10.6%	45
Washington	\$1,058	1.3605	\$778	45	11.2%	42
Virginia	\$966	1.2593	\$767	46	11.2%	43
Idaho	\$892	1.2726	\$701	47	11.3%	41
Arizona	\$941	1.3563	\$694	48	13.0%	22
Utah	\$905	1.3679	\$662	49	8.5%	49
Nevada	\$898	1.4460	\$621	50	11.0%	44
New England	\$1,463	1.2681	\$1,154		13.6%	
United States	\$1,229	1.2493	\$984		12.4%	

¹ Source: US Census Bureau, 2000 Data (www.census.gov)

III. Hospital Expenses Per Unit-of-Service

Table 2 examines hospital expenses per unit-of-service (i.e., per adjusted admission). Unlike per-capita expenses, which are a function of both unit-costs and utilization, the expense per adjusted admission reflects only real cost differences.

Generally, hospitals have considerable control over their expenses. With the exception of some fixed costs (e.g., depreciation, interest, utilities, etc.), most others are either variable or semi-fixed, and may be changed according to demand (patient volume).

In 1999, RI hospitals incurred \$5,169 in expenses per adjusted admission. This amount was the 17th **lowest** of all states, and 6 percent **less** than the national rate (\$5,476). RI was 15 percent **less** than the New England rate (\$6,046), and the **least** expensive state in the region (with the exception of New Hampshire \$4,939).

Relatively low unit-expenses indicate greater hospital economic efficiency⁸ and are favorable from an operational standpoint. They provide a hospital greater flexibility in reimbursement negotiations that could result in lower hospital prices, which in turn, could be reflected in lower insurance premiums to consumers.

TABLE 2: 1999 HOSPITAL EXPENSES PER (ADJ.) ADMISSION

	Unadjusted Expense per (Adj.) Admission	Medicare Case-Mix Index	Case-Mix Adjusted Expense per (Adj.) Admission	State Ranking (Greatest to Least Amounts)
Alaska	\$9,089	1.0779	\$8.432	1
New York	\$8,896	1.2917	\$6.887	2
Nebraska	\$6,899	1.0609	\$6.503	3
Hawaii	\$8,896	1.3699	\$6.494	4
North Dakota	\$6,700	1.0417	\$6.432	5
Massachusetts	\$8,015	1.2822	\$6.251	6
Minnesota	\$6,973	1.1319	\$6.160	7
New Mexico	\$7,125	1.1772	\$6.052	8
Connecticut	\$8,264	1.3717	\$6.024	9
South Dakota	\$6,482	1.0842	\$5.978	10
Montana	\$6,428	1.1220	\$5.729	11
California	\$7,716	1.3476	\$5.726	12
Vermont	\$6,921	1.2090	\$5.724	13
Wisconsin	\$6,726	1.1826	\$5.688	14
Missouri	\$6,771	1.2131	\$5.582	15
Delaware	\$7,525	1.3497	\$5.575	16
Michigan	\$6,991	1.2543	\$5.574	17
Maine	\$6,558	1.1848	\$5.535	18
South Carolina	\$6,578	1.1946	\$5.506	19
Iowa	\$5,920	1.0784	\$5.489	20
Illinois	\$6,888	1.2551	\$5.488	21
Kansas	\$5,879	1.0723	\$5.483	22
Washington	\$7,433	1.3605	\$5.463	23
Indiana	\$6,573	1.2234	\$5.373	24
New Jersey	\$7,095	1.3223	\$5.366	25
Georgia	\$6,305	1.1758	\$5.363	26
Colorado	\$7,012	1.3094	\$5.355	27
North Carolina	\$6,301	1.1921	\$5.286	28
Pennsylvania	\$6,686	1.2651	\$5.285	29
Tennessee	\$6,264	1.1916	\$5.257	30
Ohio	\$6,637	1.2736	\$5.211	31
Maryland	\$6,697	1.2860	\$5.208	32
Texas	\$6,420	1.2346	\$5.200	33
Rhode Island	\$6,696	1.2954	\$5.169	34
Oregon	\$6,237	1.2490	\$4.993	35
Mississippi	\$5,066	1.0171	\$4.980	36
New Hampshire	\$6,345	1.2847	\$4.939	37
Wyoming	\$5,696	1.1711	\$4.864	38
Oklahoma	\$5,571	1.1749	\$4.742	39
Virginia	\$5,970	1.2593	\$4.740	40
Louisiana	\$5,821	1.2486	\$4.662	41
Kentucky	\$5,527	1.1857	\$4.662	42
Arkansas	\$5,133	1.1047	\$4.646	43
Arizona	\$6,273	1.3563	\$4.625	44
Utah	\$6,261	1.3679	\$4.577	45
Idaho	\$5,810	1.2726	\$4.566	46
Alabama	\$5,368	1.1840	\$4.534	47
West Virginia	\$5,332	1.2014	\$4.438	48
Florida	\$5,934	1.3955	\$4.252	49
Nevada	\$6,102	1.4460	\$4.220	50
New England	\$7,666	1.2681	\$6.046	
United States	\$6,842	1.2493	\$5.476	

IV. Hospital Utilization

Reconciling the relatively high per-capita expenses with the low unit-expenses implies there was greater hospital utilization in RI than in other states. This was also suggested by RI's elderly population demographic in Table 1. Table 3 supports this explanation and provides comparative utilization rates for both inpatient and select outpatient services. The data indicate that greater hospital outpatient utilization, specifically outpatient surgeries and ER visits, were contributing factors to the relatively high per-capita hospital expenses in the state.

Inpatient hospital utilization based on admissions in RI (118 admissions per 1,000 population) was the 24th **highest** in the US, and approximated the National rate (119 per 1,000). On a Regional basis, RI was 6 percent **above** the New England rate (111 per 1,000), and trailed only Massachusetts (120 per 1,000). RI inpatient utilization based on patient days (629 days per 1,000), was the 36th **highest** in the country (703 days per 1,000). Regionally, it was second **lowest** in New England (650 days per 1,000), above only New Hampshire (499 days per 1,000).

Outpatient hospital utilization in RI tells another story. Its Emergency Room rate (426 ER visits per 1,000 population) was the 11th **highest** in the country, 17 percent **higher** than the National rate (365 per 1,000) and similar to the Regional rate (429 per 1,000). Other hospital outpatient visit rates in RI (1,504 visits per 1,000 population) were the 28th **highest** in the country, 4 percent **higher** than the National rate (1,452 per 1,000) but 20 percent **below** the New England rate (1,871 per 1,000). Hospital outpatient surgical rates in RI (88 surgeries per 1,000 population) were the 4th **highest** in the country (58 per 1,000) and 31 percent **higher** than the Regional rate (67 per 1,000).

Evaluating RI's relatively high hospital outpatient utilization cannot be done without a determination of whether that utilization was appropriate and whether less expensive alternative outpatient facilities of the same quality were available.

TABLE 3: 1999 HOSPITAL UTILIZATION RATES (per 1,000 Population)										
INPATIENT SERVICES					OUTPATIENT SERVICES					
	Admis- sions*	State Rank	Inpatient Days*	State Rank	Emergency Visits*	State Rank	Non- Emergency Visits*	State Rank	Outpatient Surgeries*	State Rank
Alabama	153.3	2	824.6	14	450.6	7	1,342.4	34	64.0	18
Alaska	65.8	50	398.5	50	264.9	48	1,401.4	33	41.4	48
Arizona	107.0	34	498.8	44	280.5	45	754.0	49	42.1	47
Arkansas	147.1	4	860.7	10	420.7	12	1,129.8	39	60.6	24
California	97.9	39	515.6	42	280.4	46	1,070.6	40	35.6	50
Colorado	94.5	42	480.2	45	326.5	37	1,261.1	35	51.1	38
Connecticut	102.9	38	630.9	35	409.8	14	1,667.7	20	56.5	28
Delaware	115.7	26	653.7	31	378.6	20	1,409.4	31	87.9	3
Florida	133.7	11	736.9	20	363.2	26	940.4	45	53.2	35
Georgia	105.8	35	722.3	23	366.5	23	1,025.2	44	55.2	33
Hawaii	83.7	49	649.4	32	202.1	50	1,853.3	12	38.2	49
Idaho	95.8	41	554.7	40	331.1	34	1,412.4	30	48.4	44
Illinois	124.4	16	681.6	26	364.5	25	1,607.4	22	53.9	34
Indiana	115.0	27	672.9	28	356.8	28	1,849.9	13	68.8	10
Iowa	125.2	15	870.9	9	366.5	24	2,617.8	1	97.7	2
Kansas	123.0	18	841.3	12	347.0	32	1,546.1	24	66.5	15
Kentucky	143.9	6	832.3	13	502.5	3	1,512.7	25	84.2	5
Louisiana	143.4	7	792.2	15	499.1	4	1,677.0	18	62.4	21
Maine	116.8	25	696.4	24	462.7	6	1,753.8	15	77.1	7
Maryland	111.5	30	584.6	39	322.5	39	826.7	48	62.0	22
Massachusetts	119.7	22	681.8	25	411.5	13	2,102.4	7	71.4	8
Michigan	109.9	32	638.3	34	357.7	27	1,910.4	10	67.1	14
Minnesota	112.0	29	847.3	11	285.8	44	1,065.0	41	56.1	31
Mississippi	150.2	3	1,053.4	6	516.4	2	732.4	50	52.6	36
Missouri	135.8	10	776.8	17	441.1	8	2,236.8	4	66.3	16
Montana	110.9	31	1,315.5	3	298.2	40	2,578.4	2	43.2	45
Nebraska	119.7	23	1,093.6	4	295.0	41	1,506.8	27	68.5	11
Nevada	109.2	33	552.9	41	291.4	43	883.9	47	61.6	23
New Hampshire	90.8	45	499.3	43	409.5	15	1,589.3	23	50.5	41
New Jersey	131.2	14	755.3	18	353.9	29	1,626.4	21	50.8	39
New Mexico	94.1	44	417.1	47	294.6	42	1,507.2	26	49.7	42
New York	132.2	13	1,063.3	5	392.4	17	2,121.4	6	64.6	17
North Carolina	121.7	20	748.5	19	371.8	21	1,136.6	38	57.9	26
North Dakota	137.2	8	1,345.3	2	394.5	16	2,180.1	5	67.3	13
Ohio	120.7	21	654.1	30	435.8	9	1,775.0	14	68.0	12
Oklahoma	122.4	19	677.1	27	349.1	31	1,028.2	43	55.6	32
Oregon	95.8	40	425.2	46	277.9	47	1,729.8	16	49.2	43
Pennsylvania	146.3	5	888.2	8	384.8	18	2,055.5	8	80.9	6
Rhode Island	118.2	24	629.1	36	425.6	11	1,503.7	28	87.6	4
South Carolina	123.3	17	724.8	22	431.1	10	1,205.6	37	56.6	27
South Dakota	132.7	12	1,435.0	1	261.9	49	1,857.4	11	62.8	19
Tennessee	137.1	9	783.6	16	472.2	5	1,256.6	36	69.1	9
Texas	114.9	28	599.5	38	352.8	30	1,057.0	42	51.6	37
Utah	88.9	46	409.4	49	322.9	38	1,726.8	17	56.4	29
Vermont	85.6	47	664.9	29	371.4	22	2,009.9	9	56.3	30
Virginia	105.3	37	601.5	37	333.5	33	936.9	46	58.2	25
Washington	85.2	48	412.7	48	328.0	36	1,402.3	32	43.1	46
West Virginia	160.2	1	991.8	7	554.6	1	2,265.4	3	108.7	1
Wisconsin	105.4	36	646.5	33	328.3	35	1,673.7	19	62.7	20
Wyoming	94.3	43	729.8	21	384.4	19	1,420.6	29	50.7	40
New England	111.2		649.9		428.6		1,870.6		67.0	
United States	118.7		703.4		364.8		1,451.7		58.1	

* Source: "Hospital Statistics" 2001 Edition. American Hospital Association

V. Hospital Patient Revenue Per Unit-of-Service

Table 4 presents 1999 hospital patient revenue per unit-of-service and measures what payors (third parties and patients) actually paid for hospital services. Generally, hospitals have less control over their reimbursement than their expenses. Reimbursement is a more complex interaction of each hospital's expense structure, payor mix, charity care, market share and negotiating skills.

Rhode Island hospitals received \$4,654, in aggregate, per adjusted admission. This amount was the 9th **lowest** of all states and 11 percent **less** than the national rate (\$5,245). RI had the **lowest** unit-revenue in New England, 14 percent **under** the regional amount of \$5,417.

Unlike the unit-expense comparisons in Table 2, these unit-revenue comparisons were influenced by the payor mix, and amount of charity care provided in each state. For example, some payors reimburse hospital services more generously than others do, so a higher mix of these payors would inflate the global reimbursement figures. Likewise, charity care admissions do not generate revenue, but they do incur expenses. All else being equal, a greater volume of charity care will depress the unit-revenue statistics. Therefore, even though there was comparatively lower unit-revenue in RI, that does not necessarily mean that RI hospitals received less reimbursement from individual payors for similar services than elsewhere.

Caution should be used in drawing conclusions from unit-expense and unit-revenue comparisons. Not included on the reimbursement side were other sources of hospital revenue (e.g., investment income, fundraising, other non-operating monies, etc.) and included on the expense side were some non-patient related expenses. Therefore, one cannot assume that all RI hospitals lost money in 1999 because unit-expenses exceeded unit-reimbursement statewide,⁹ nor can one assess the 'adequacy' of reimbursement rates in terms of covering expenses.

Comparatively low reimbursement rates are quite favorable, providing those 'savings' are passed on to purchasers of health insurance and the hospitals are able to provide quality services at those prices.

TABLE 4: 1999 HOSPITAL PATIENT REVENUE PER (ADJ.) ADMISSION

	Unadjusted Patient Revenue per (Adj.) Admission	Medicare Case-Mix Index	Case-Mix Adjusted Patient Revenue per (Adj.) Admission	State Ranking (Greatest to Least Amounts)
Alaska	\$9,443	1.0779	\$8,761	1
Nebraska	\$7,014	1.0609	\$6,612	2
North Dakota	\$6,489	1.0417	\$6,229	3
New Mexico	\$7,310	1.1772	\$6,209	4
New York	\$7,903	1.2917	\$6,118	5
Minnesota	\$6,899	1.1319	\$6,095	6
Hawaii	\$8,249	1.3699	\$6,022	7
South Dakota	\$6,519	1.0842	\$6,013	8
Connecticut	\$7,768	1.3717	\$5,663	9
Montana	\$6,332	1.1220	\$5,644	10
Wisconsin	\$6,667	1.1826	\$5,637	11
Vermont	\$6,758	1.2090	\$5,590	12
Maine	\$6,616	1.1848	\$5,584	13
South Carolina	\$6,616	1.1946	\$5,538	14
Kansas	\$5,849	1.0723	\$5,455	15
Indiana	\$6,583	1.2234	\$5,381	16
Georgia	\$6,314	1.1758	\$5,370	17
Michigan	\$6,726	1.2543	\$5,363	18
California	\$7,197	1.3476	\$5,341	19
Iowa	\$5,752	1.0784	\$5,334	20
Washington	\$7,241	1.3605	\$5,323	21
Missouri	\$6,421	1.2131	\$5,293	22
North Carolina	\$6,273	1.1921	\$5,262	23
Massachusetts	\$6,719	1.2822	\$5,241	24
Colorado	\$6,844	1.3094	\$5,227	25
Delaware	\$6,957	1.3497	\$5,155	26
New Hampshire	\$6,557	1.2847	\$5,104	27
Illinois	\$6,387	1.2551	\$5,089	28
Wyoming	\$5,930	1.1711	\$5,064	29
Mississippi	\$5,141	1.0171	\$5,054	30
Virginia	\$6,363	1.2593	\$5,053	31
Louisiana	\$6,308	1.2486	\$5,052	32
Maryland	\$6,484	1.2860	\$5,042	33
Pennsylvania	\$6,375	1.2651	\$5,039	34
New Jersey	\$6,625	1.3223	\$5,010	35
Tennessee	\$5,954	1.1916	\$4,997	36
Ohio	\$6,345	1.2736	\$4,982	37
Texas	\$6,037	1.2346	\$4,890	38
Oregon	\$6,101	1.2490	\$4,884	39
Utah	\$6,543	1.3679	\$4,783	40
Idaho	\$5,925	1.2726	\$4,656	41
Rhode Island	\$6,029	1.2954	\$4,654	42
Oklahoma	\$5,415	1.1749	\$4,609	43
Kentucky	\$5,447	1.1857	\$4,594	44
Arkansas	\$5,065	1.1047	\$4,585	45
Arizona	\$5,974	1.3563	\$4,404	46
West Virginia	\$5,275	1.2014	\$4,391	47
Alabama	\$5,170	1.1840	\$4,367	48
Nevada	\$6,283	1.4460	\$4,345	49
Florida	\$6,010	1.3955	\$4,307	50
New England	\$6,869	1.2681	\$5,417	
United States	\$6,553	1.2493	\$5,245	

VI. Hospital Costs Trends

Table 5 provides a comparison of 1998 and 1999 expenses and patient revenue (reimbursement). For this period, RI's hospital expenses **increased** 2.9 percent, the 27th **fastest** in the country. The New England rate of increase was 0.2 percent, and only Vermont's expenses (5.8 percent) grew faster.

Patient revenue was another matter. RI's reimbursement **declined** 3.6 percent, the third **lowest** percentage change in any state. This compared with a gain of 1.6 percent in the US, and a gain of 0.3 percent in New England. With the exception of Maine (-0.5 percent), every other New England state posted an increase in patient revenue.

This situation was not favorable. To have expenses increase while reimbursement declines did not portend well for RI's hospital system, and this was reflected in its deteriorating financial performance in 1999.¹⁰

Again, one cannot conclude from these data that **individual payors** reimbursed less in 1999 than in 1998 for similar services. These are global statistics aggregating all hospitals and all payors in the state. For example, the 1998 mix may have included proportionately more services provided at higher reimbursed hospitals or the payor mix may have included a larger proportion of more generous payors. Again, the large elderly demographic in State (Table 1) suggests that RI may have been disproportionately affected by the Balanced Budget Amendment (BBA) which reduced certain ancillary hospital payments for Medicare. All of these scenarios would serve to depress the 1999 unit-revenue statistic relative to 1998.

Table 5 also illustrates the relationship between patient revenue and expenses. Four of the five highest reimbursed states (Alaska, Nebraska, North Dakota and New York) were also among the top five most expensive. Likewise, four of the five lowest reimbursed states (Florida, Nevada, Alabama and West Virginia) ranked among the five least expensive. This association is not coincidental. It is in the economic self-interest of hospitals to maximize reimbursement (while minimizing expenses). Likewise, payors are indisposed to pay hospitals much above the cost (expense) of services. In a competitive marketplace, this healthy balance prevails.

TABLE 5: 1998-1999 HOSPITAL COSTS CHANGES

ADJUSTED EXPENSE PER (ADJ.) ADMISSION					ADJUSTED PATIENT REVENUE PER (ADJ.) ADMISSION				
	1998 ¹	1999	Percent Change	State Ranking (% Change)		1998 ¹	1999	Percent Change	State Ranking (% Change)
New Mexico	\$4,521	\$6,052	33.9%	1	New Mexico	\$4,618	\$6,209	34.5%	1
Alaska	\$7,520	\$8,432	12.1%	2	South Dakota	\$5,363	\$6,013	12.1%	2
Tennessee	\$4,743	\$5,257	10.8%	3	Alaska	\$7,977	\$8,761	9.8%	3
Montana	\$5,181	\$5,729	10.6%	4	Washington	\$4,889	\$5,323	8.9%	4
Colorado	\$4,885	\$5,355	9.6%	5	Iowa	\$4,906	\$5,334	8.7%	5
South Dakota	\$5,495	\$5,978	8.8%	6	Montana	\$5,225	\$5,644	8.0%	6
Iowa	\$5,048	\$5,489	8.7%	7	Vermont	\$5,201	\$5,590	7.5%	7
Idaho	\$4,209	\$4,566	8.5%	8	Utah	\$4,477	\$4,783	6.9%	8
Washington	\$5,051	\$5,463	8.1%	9	Louisiana	\$4,749	\$5,052	6.4%	9
California	\$5,336	\$5,726	7.3%	10	Minnesota	\$5,740	\$6,095	6.2%	10
Arizona	\$4,341	\$4,625	6.5%	11	Nevada	\$4,138	\$4,345	5.0%	11
Minnesota	\$5,817	\$6,160	5.9%	12	Colorado	\$5,008	\$5,227	4.4%	12
Vermont	\$5,413	\$5,724	5.8%	13	Mississippi	\$4,844	\$5,054	4.3%	13
Arkansas	\$4,408	\$4,646	5.4%	14	California	\$5,122	\$5,341	4.3%	14
Missouri	\$5,347	\$5,582	4.4%	15	Idaho	\$4,489	\$4,656	3.7%	15
Delaware	\$5,342	\$5,575	4.4%	16	Oregon	\$4,725	\$4,884	3.4%	16
Texas	\$4,992	\$5,200	4.2%	17	Tennessee	\$4,865	\$4,997	2.7%	17
Nebraska	\$6,253	\$6,503	4.0%	18	Virginia	\$4,924	\$5,053	2.6%	18
North Carolina	\$5,085	\$5,286	4.0%	19	Oklahoma	\$4,503	\$4,609	2.4%	19
Mississippi	\$4,792	\$4,980	3.9%	20	Missouri	\$5,177	\$5,293	2.2%	20
Oregon	\$4,822	\$4,993	3.5%	21	Wisconsin	\$5,515	\$5,637	2.2%	21
Utah	\$4,424	\$4,577	3.5%	22	Delaware	\$5,043	\$5,155	2.2%	22
West Virginia	\$4,295	\$4,438	3.3%	23	South Carolina	\$5,419	\$5,538	2.2%	23
Nevada	\$4,095	\$4,220	3.1%	24	Arkansas	\$4,498	\$4,585	1.9%	24
South Carolina	\$5,350	\$5,506	2.9%	25	Ohio	\$4,891	\$4,982	1.9%	25
Oklahoma	\$4,609	\$4,742	2.9%	26	Nebraska	\$6,494	\$6,612	1.8%	26
Rhode Island	\$5,025	\$5,169	2.9%	27	Indiana	\$5,296	\$5,381	1.6%	27
Maryland	\$5,068	\$5,208	2.8%	28	Wyoming	\$4,996	\$5,064	1.4%	28
Georgia	\$5,222	\$5,363	2.7%	29	West Virginia	\$4,343	\$4,391	1.1%	29
Connecticut	\$5,888	\$6,024	2.3%	30	New Hampshire	\$5,049	\$5,104	1.1%	30
Ohio	\$5,094	\$5,211	2.3%	31	Arizona	\$4,357	\$4,404	1.1%	31
Wisconsin	\$5,562	\$5,688	2.3%	32	North Carolina	\$5,211	\$5,262	1.0%	32
New York	\$6,739	\$6,887	2.2%	33	Maryland	\$4,996	\$5,042	0.9%	33
Kansas	\$5,375	\$5,483	2.0%	34	Connecticut	\$5,622	\$5,663	0.7%	34
Indiana	\$5,280	\$5,373	1.8%	35	Massachusetts	\$5,208	\$5,241	0.6%	35
Virginia	\$4,675	\$4,740	1.4%	36	Texas	\$4,860	\$4,890	0.6%	36
Hawaii	\$6,449	\$6,494	0.7%	37	Pennsylvania	\$5,015	\$5,039	0.5%	37
Maine	\$5,524	\$5,535	0.2%	38	New Jersey	\$5,004	\$5,010	0.1%	38
Pennsylvania	\$5,275	\$5,285	0.2%	39	New York	\$6,141	\$6,118	-0.4%	39
Wyoming	\$4,863	\$4,864	0.0%	40	Maine	\$5,610	\$5,584	-0.5%	40
Michigan	\$5,590	\$5,574	-0.3%	41	Kansas	\$5,489	\$5,455	-0.6%	41
Massachusetts	\$6,275	\$6,251	-0.4%	42	Alabama	\$4,396	\$4,367	-0.7%	42
Alabama	\$4,558	\$4,534	-0.5%	43	Georgia	\$5,406	\$5,370	-0.7%	43
Illinois	\$5,523	\$5,488	-0.6%	44	Florida	\$4,339	\$4,307	-0.7%	44
Florida	\$4,307	\$4,252	-1.3%	45	Hawaii	\$6,124	\$6,022	-1.7%	45
New Jersey	\$5,456	\$5,366	-1.7%	46	Michigan	\$5,488	\$5,363	-2.3%	46
Louisiana	\$4,743	\$4,662	-1.7%	47	North Dakota	\$6,463	\$6,229	-3.6%	47
North Dakota	\$6,593	\$6,432	-2.4%	48	Rhode Island	\$4,829	\$4,654	-3.6%	48
Kentucky	\$4,787	\$4,662	-2.6%	49	Kentucky	\$4,776	\$4,594	-3.8%	49
New Hampshire	\$5,075	\$4,939	-2.7%	50	Illinois	\$5,310	\$5,089	-4.2%	50
New England	\$6,033	\$6,046	0.2%		New England	\$5,401	\$5,417	0.3%	
United States	\$5,318	\$5,476	3.0%		United States	\$5,165	\$5,245	1.6%	

¹ Source: *Hospital Costs in Rhode Island*, Crvan B., Rhode Island Department of Health, September 2000

Endnotes:

- ¹ In 1998, hospital spending comprised 38% of all national personal healthcare expenditures, US Census Bureau. (December 2000). Statistical Abstract of the United States –the National Data Book. (120th Edition, p. 110)
- ² American Hospital Association, Hospital Statistics (2001 Edition); HCIA Sacks, The Comparative Performance of U.S. Hospitals: The Sourcebook (2001 Edition)
- ³ HEALTH's Quality Measurement & Reporting Program established in 1998 is working with hospital, business, labor, consumer and other healthcare professional leaders to report on selected hospital quality indicators
- ⁴ Utilization review is the process by which services are evaluated for medical necessity and appropriateness (UR Agents are regulated by HEALTH's Office of Managed Care Regulation)
- ⁵ An Adjusted Admission is a calculation used to approximate both the inpatient and outpatient activity at a hospital and is calculated: (admissions x (total gross patient revenue / gross inpatient revenue)), source: The Comparative Performance of U.S. Hospitals: The Sourcebook. Ibid.
- ⁶ (Statistic / Medicare case-mix index), same methodology employed by HCIA Sacks (a national healthcare information firm) to case-mix adjust a statistic; HCIA Sacks reports that (in the absence of a valid source for all-payor case-mix indices) the Medicare case-mix index, while only attributable to the Medicare inpatient population, serves as a good approximation of the overall case-mix at a hospital. The Comparative Performance of U.S. Hospitals: The Sourcebook. Ibid. (p. 19)
- ⁷ Per-capita expenses are not age-adjusted.
- ⁸ The production of a good or service at low relative cost
- ⁹ In 1999, 2 of 11, RI general, acute-care hospitals made an operating profit, and 1 of the other 9 lost <\$500k. 1999 Hospital Financial Operations Dataset. Ibid.
- ¹⁰ In 1999, there was an aggregate hospital operating loss of \$50.7m (-3.8% on net patient revenue), compared with a loss of \$30.1m (-2.3%) in 1998. 1999 Hospital Financial Operations Dataset. Ibid. (p.6)

APPENDIX: 1999 DATA INPUTS								
	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
	Admissions	Total Gross Patient Revenue (millions)	Gross Inpatient Revenue (millions)	Total (Adj.) Admissions (1*(2/3))	Population (thousands)	Net Patient Revenue (millions)	Total Expenses (millions)	Medicare Case-Mix Index
Alabama	670.059	\$12.525	\$8.626	972.924	4.370	\$5.030	\$5.222	1.1840
Alaska	40.785	\$998	\$626	65.060	620	\$614	\$591	1.0779
Arizona	511.084	\$10.410	\$7.422	716.846	4.778	\$4.282	\$4.497	1.3563
Arkansas	375.297	\$6.096	\$3.950	579.148	2.551	\$2.933	\$2.972	1.1047
California	3,244.086	\$80.852	\$57.872	4,532.228	33.145	\$32.618	\$34.970	1.3476
Colorado	383.283	\$8.518	\$5.466	597.318	4.056	\$4.088	\$4.188	1.3094
Connecticut	337.821	\$7.162	\$4.607	525.128	3.282	\$4.079	\$4.340	1.3717
Delaware	87.200	\$1.405	\$931	131.631	754	\$916	\$991	1.3497
Florida	2,020.073	\$44.981	\$30.773	2,952.731	15.111	\$17.746	\$17.522	1.3955
Georgia	824.376	\$16.060	\$10.148	1,304.586	7.788	\$8.237	\$8.226	1.1758
Hawaii	99.191	\$2.381	\$1.650	143.116	1.185	\$1.181	\$1.273	1.3699
Idaho	119.928	\$1.815	\$1.132	192.226	1.252	\$1.139	\$1.117	1.2726
Illinois	1,508.816	\$31.894	\$20.652	2,330.113	12.128	\$14.883	\$16.051	1.2551
Indiana	683.264	\$12.633	\$7.574	1,139.599	5.943	\$7.503	\$7.491	1.2234
Iowa	359.142	\$5.681	\$3.291	619.939	2.869	\$3.566	\$3.670	1.0784
Kansas	326.352	\$5.971	\$3.772	516.540	2.654	\$3.021	\$3.037	1.0723
Kentucky	569.792	\$10.004	\$6.349	897.771	3.961	\$4.890	\$4.962	1.1857
Louisiana	626.801	\$11.479	\$7.544	953.745	4.372	\$6.016	\$5.552	1.2486
Maine	146.378	\$2.520	\$1.521	242.572	1.253	\$1.605	\$1.591	1.1848
Maryland	576.551	\$6.887	\$4.872	814.874	5.172	\$5.283	\$5.457	1.2860
Massachusetts	739.375	\$17.465	\$9.840	1,312.378	6.175	\$8.819	\$10.518	1.2822
Michigan	1,084.277	\$23.316	\$13.703	1,844.879	9.864	\$12.409	\$12.898	1.2543
Minnesota	534.692	\$10.491	\$6.735	832.854	4.776	\$5.746	\$5.807	1.1319
Mississippi	415.776	\$6.416	\$4.219	632.275	2.769	\$3.250	\$3.203	1.0171
Missouri	742.867	\$15.756	\$9.964	1,174.635	5.468	\$7.542	\$7.954	1.2131
Montana	97.875	\$1.594	\$927	168.381	883	\$1.066	\$1.082	1.1220
Nebraska	199.471	\$3.715	\$2.371	312.520	1.666	\$2.192	\$2.156	1.0609
Nevada	197.501	\$4.345	\$3.225	266.120	1.809	\$1.672	\$1.624	1.4460
New Hampshire	109.110	\$2.143	\$1.152	203.052	1.201	\$1.331	\$1.288	1.2847
New Jersey	1,068.664	\$23.684	\$17.817	1,420.568	8.143	\$9.411	\$10.079	1.3223
New Mexico	163.700	\$3.350	\$2.115	259.311	1.740	\$1.895	\$1.848	1.1772
New York	2,406.327	\$50.209	\$34.645	3,487.383	18.197	\$27.559	\$31.023	1.2917
North Carolina	930.747	\$15.407	\$10.061	1,425.276	7.651	\$8.941	\$8.981	1.1921
North Dakota	86.931	\$1.679	\$919	158.760	634	\$1.030	\$1.064	1.0417
Ohio	1,358.662	\$26.086	\$15.807	2,242.160	11.257	\$14.227	\$14.882	1.2736
Oklahoma	411.025	\$7.015	\$4.678	616.349	3.358	\$3.338	\$3.434	1.1749
Oregon	317.808	\$5.162	\$3.114	526.926	3.316	\$3.215	\$3.286	1.2490
Pennsylvania	1,755.029	\$41.017	\$27.098	2,656.543	11.994	\$16.935	\$17.762	1.2651
Rhode Island	117.163	\$2.457	\$1.415	203.416	991	\$1.226	\$1.362	1.2954
South Carolina	478.936	\$9.379	\$6.267	716.727	3.886	\$4.742	\$4.715	1.1946
South Dakota	97.316	\$1.383	\$925	145.403	733	\$948	\$942	1.0842
Tennessee	751.523	\$14.332	\$9.328	1,154.766	5.484	\$6.876	\$7.234	1.1916
Texas	2,302.892	\$47.446	\$32.090	3,404.868	20.044	\$20.556	\$21.860	1.2346
Utah	189.430	\$3.454	\$2.125	307.878	2.130	\$2.014	\$1.928	1.3679
Vermont	50.820	\$953	\$518	93.480	594	\$632	\$647	1.2090
Virginia	723.803	\$13.640	\$8.879	1,111.933	6.873	\$7.075	\$6.638	1.2593
Washington	490.659	\$9.917	\$5.937	819.600	5.756	\$5.935	\$6.092	1.3605
West Virginia	289.427	\$4.260	\$2.558	482.001	1.807	\$2.542	\$2.570	1.2014
Wisconsin	553.337	\$9.962	\$5.949	926.625	5.250	\$6.177	\$6.233	1.1826
Wyoming	45.212	\$678	\$392	78.254	480	\$464	\$446	1.1711
New England	1,500.667	\$32,701	\$19,053	2,575,628	13,496	\$17,692	\$19,746	1.2681
United States	32,359.042	\$660,717	\$436,315	49,001,728	272,691	\$321,098	\$335,246	1.2493

Sources: Columns 1, 2, 3, 5, 6 & 7 "Hospital Statistics -2001". American Hospital Association: Column 8. "The Sourcebook -